



Macformat

Internet Connection Guide

**How to get
on-line with
your iMac, G3,
PowerMac,
Performa, or
any Mac OS
computer**

**Easy-to-use
step-by-step
guide**

**Plus time
and money
saving tips**

In Association with Apple Computer UK

Startup

Ten things you'll need to know (possibly)

To connect to the Internet through an Internet service provider or ISP (don't panic – we'll explain what all this means over the next few pages), your Mac needs some basic information. If you sign up using Apple's Internet Setup Assistant (included with recent versions of the Mac OS) or configuration software supplied by an ISP, you won't need to worry about any of this because it will all be handled automatically. However, if you want to connect to an existing account, or to an ISP not listed in the Connection Assistant, you will have to enter the following manually. This information will all be provided by your ISP when you open an account – make a note of it here to keep it handy.

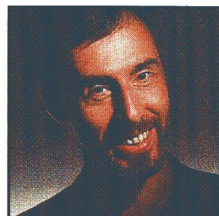
- 1** Internet service provider (ISP) dial-up access number. The phone number that your Mac needs to dial to connect to the ISP's servers, *not* the "Support" number you dial to speak to a human being for help or advice. The dial-up access number is often a local-rate (0845 or similar) number, or there may be a local number for your area. There may be different numbers for connecting using different speed modems and connection protocols (36K, 56K, ISDN, etc) – make sure you've got the right one for you. If in doubt, ask your ISP first.
- 2** ISP domain name. This is the "location" of your service provider on the Internet, the equivalent of a postal address. It usually takes a form such as **apple.com** or **futurenet.co.uk**.
- 3** ISP DNS address (primary and secondary). DNS stands for Domain Name Server – the specific computer that will act as your gateway to the Net. Many ISPs offer a "secondary" server as a back-up, but you really need to specify only one – though sometimes your ISP sets this automatically when you connect. DNS addresses take the form of four groups of numbers separated by a period (full stop) between each, such as **123.45.678.90** (there may be anything between one and four numbers in each group, but there are always four groups).
- 4** Mailhost address. Many ISPs use different systems for outgoing and incoming e-mail. Your outgoing mail will often be sent to an SMTP "mailhost" which you will need to specify. (SMTP stands for Simple Mail Transfer Protocol, since you ask.) The outgoing mail address usually takes a form such as **smtp.host.com** or **mail.apple.com**.
- 5** POPmail address. Your *incoming* mail may be handled by a separate "POP" (Post Office Protocol) server and you'll need to specify it before you can receive any e-mails. It usually takes a form such as **pop.host.co.uk** or **mail.apple.com** (it may be the same as the SMTP or outgoing mail address, but make sure you double-check).
- 6** News server address. Internet newsgroups are distributed around the world and made available on ISPs' news servers. If you want to read and contribute to newsgroups, you'll need to know the name of your own ISP's news server. This usually takes a form such as **news.host.com**.
- 7** Username or log-in name. Your Internet account has to be secured so that no-one else can use it fraudulently. This is handled first via a unique personal "username" which your Mac uses to log on. This is normally the *first* part of your complete e-mail address – the "yourname" part before the "@" in **yourname@host.com**.
- 8** Password. The other part of your protection is a private password. Your ISP will provide this and your Mac can store and use it automatically if you wish. (Um, you might prefer *not* to note it here...)
- 9** Mailbox name and password. Most ISPs assign your username to your personal mailbox too, while others may provide a different name for accessing your e-mail messages. In the same way, most ISPs use the same password for your mailbox as the one you use to connect to your Internet account, but it may be different.
- 10** E-mail address. This usually takes the familiar form **yourname@host.com**. An e-mail address normally *does not* include a POP server address (number 5 above), just your username (number 7) @ domain name (number 2).

Welcome... to the world

The Internet? No such thing. At least, it's not really a "thing" at all – you can't point to any place and say "there it is." The term "Internet" ("Net" for short) really describes the way that thousands of computers around the world are linked to each other, mainly over telephone lines. These thousands of computers have millions of "pages" of information stored on them, and when you access one of these pages on the World Wide Web (the most popular part of the Net) it's like viewing a kind of teletext page via cable TV on your own computer screen. (This means that even then you

don't really "have" the Net yourself; what you've got is like a library card, and you've electronically "borrowed" the pages you're viewing.)

When you receive an e-mail (the second most popular feature of the Net), it's just like getting a phone call: the message is sent from the sender's computer to yours by way of the phone lines (and a couple of other computers along the way that act like the phone exchange). You'd make a phone call without giving it a thought, and in this little book we'll show you, step-by-step, how to get connected to the Net and use it just as effortlessly.



Alex Summersby, editor of MacFormat, Britain's best-selling Mac magazine, welcomes you to the Net...

How to use this book

Whether you want to connect to the Internet for work or pleasure, for e-mail or the Web or just out of curiosity, we're here to get you on-line as quickly and as easily as possible. Since at least Mac OS 8.0, Apple has provided the Internet Setup Assistant with just this in mind, and many of the UK's Internet service providers offer connection "kits" of their own. But what if your set-up isn't typical? What if you get lost or confused, or something goes awry? What if you want to know what's actually going on with your System software?

Simplified connection kits have their place. There are times, though, when they won't do the job unless you understand how they configure or add to your Mac's System software. This information will answer many of the queries and problems people have when connecting to the Internet, and is invaluable if you want to customise or change your set-up in the future.

With this in mind, this booklet starts with an overview of how the Net works and what you need to connect to it (page 4). If you want more info on any particular element, you can look it up (modems, page 6; phone lines, page 7; System components, page 8). If you've got all you need to get your particular Mac set-up connected, you can go straight to our step-by-step guide to using the Internet Setup Assistant (for OS 8.0 or newer) or the do-it-yourself guide appropriate for your Mac and System version. Finally, our Net guide advises you on choosing an ISP and software for using the Net once you're connected. Have fun!

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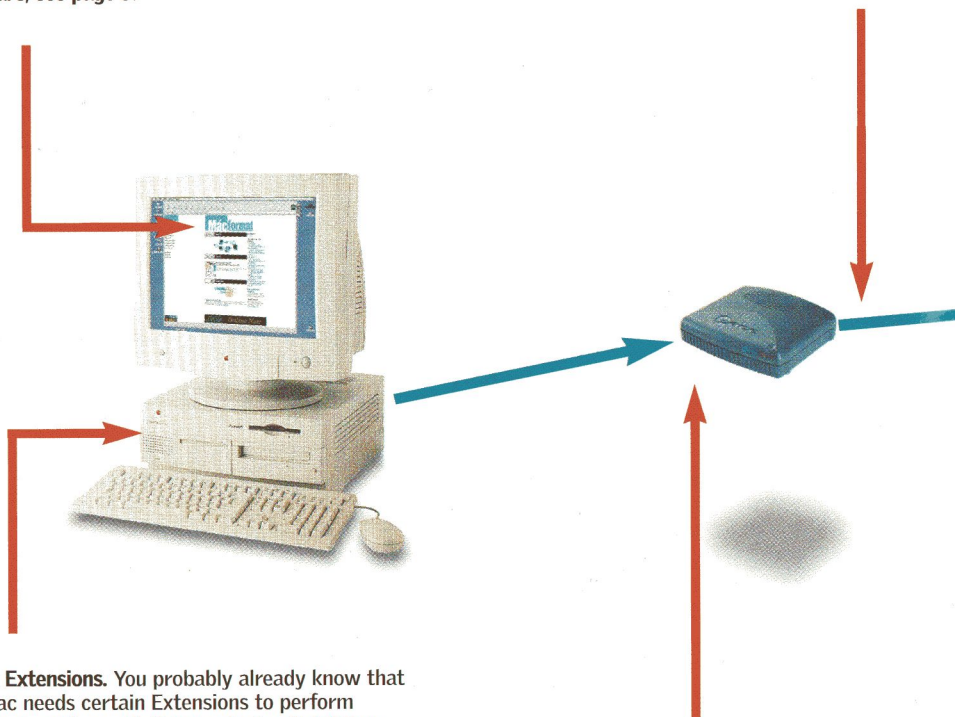
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How the Internet works

1 Your Mac. Any Mac will do, although older models may struggle to run the latest generation of Web browser software (which you need to view Web pages). Look up your Mac and System version on [page 8](#) to find out what your set-up needs to be connected. For details of Web, e-mail and other software, see [page 5](#).

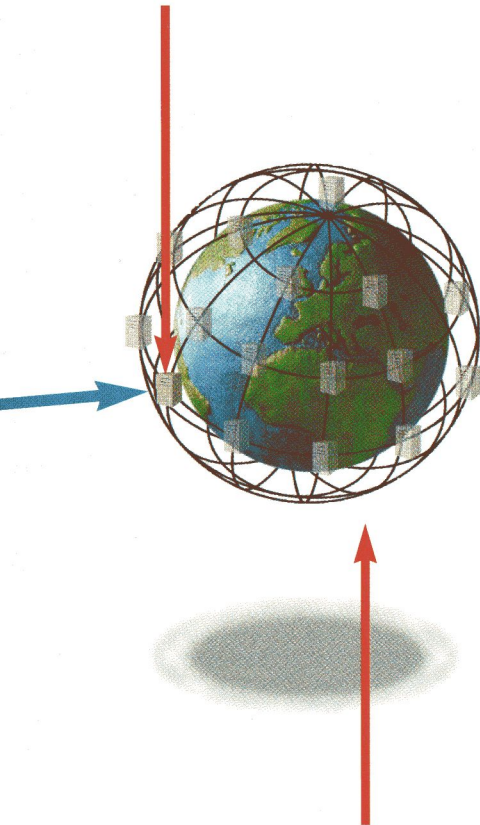
2 Phone line. You can connect to the Net over your existing phone line simply by unplugging the phone and plugging in your modem (or using an adaptor to plug both in, if you prefer). Connecting to the Net involves your Mac making a phone call direct to another computer, so remember that you'll have to pay for the time you're connected, just as if you were making the call yourself. If you're going to be using the Net a lot, it might make sense to consider a separate, extra phone line, or even ISDN or BT's Highway scheme, which could give you a faster connection. This could mean you mightn't have to be connected as long and thus keep costs down. For more on phone lines, see [page 7](#).



3 System Extensions. You probably already know that your Mac needs certain Extensions to perform some functions, such as printing or playing QuickTime movies. In the same way, it needs some Extensions to connect to other computers over a phone line. Much of this booklet is concerned with explaining exactly what these are (the basics are on [page 5](#)) and how to set them up. The good news is that if you're using Mac OS 8.0, 8.1 or 8.5, you almost certainly already have everything you need, and you can go straight to [page 10](#). If not, you'll need to get hold of the appropriate Extensions and Control Panels for your System version, but ISPs usually provide these when you sign up. To find out exactly which ones you need, turn to [page 8](#).

4 Modem. This converts messages from the form in which they exist in your Mac (digital data) into an analogue signal that can travel along ordinary phone lines. If you've got an iMac, a modem is built-in, and many other Mac models can be fitted with an internal modem too. (You'll need a Terminal Adaptor or router instead of a modem if you're lucky enough to be using an ISDN line, which is wholly digital.) Find out more about modems on [page 6](#).

5 Your Internet service provider (ISP). Just as your local phone exchange connects you to the phone network, your ISP acts as your gateway to the rest of the Internet. And just as you pay your phone company for the connection service it provides, you normally pay a small monthly charge for your ISP too (though there are some “free” ISPs that take a cut of the phone call charge instead). For more on ISPs, see this page and **page 22**.



6 The Internet. No-one owns it, no-one really runs it. It's just there – a vast, intertwined network of networks handling everything from e-mail to countless millions of Web pages to news feeds to FTP (File Transfer Protocol – basically software of various kinds that you can copy to your own computer).

We won't bore you with lots of technical waffle about peer-to-peer networking and client-server relationships (see, you're bored already). Instead, we'll simplify this whole Internet business into an “us and them” situation.

“Them” refers to the countless thousands of interconnected computers (often rather loosely called just “servers”) that make up the Internet in the sense that they are permanently linked to it.

Why do you need an ISP?

Being a member of this Internet club requires very expensive hardware and a good deal of technical know-how. That's why Internet service providers (ISPs) exist – they have all the equipment needed to give ordinary users like us temporary access to the Internet. It's temporary in that when you dial in you're connected and when you quit you're disconnected. We're just visitors, basically. (However, since the vast majority of servers exist to serve up Web pages to us visitors, pass on our e-mails or store files we might want to copy, don't imagine that we're simply the poor relations...)

Connection software

Many Macs are used as standalone computers, but there are lots of users who work on company networks which link several Macs so that co-workers can share files, gossip and knitting patterns. For networks to work, they have to use standard ways of packaging, directing and receiving data. You might use AppleTalk to connect to your printer (a basic network), or Ethernet to link to a company network. The Internet uses a system called IP (Internet Protocol), and your Mac talks to it via TCP (Transmission Control Protocol). That's why the Control Panel is called TCP/IP.

To connect via phone lines, your Mac needs another bit of software called PPP (Point to Point Protocol). Since System 7.6, PPP is included in Apple's “Open Transport” system (see page 8). If you have an older System version, you need to get hold of PPP, either from your ISP or in a kit like Apple's Internet Connection Kit (see page 21).

In a nutshell, then: all your Mac needs to connect to the Internet is a modem, a phone line, an account with an ISP, and two types of Extension – TCP (which you've almost certainly got) and an appropriate version of PPP for your System (which you've either got or can get).

Once connected, to *do* anything on the Net you'll need the right software – a browser to view Web pages, an e-mail program, perhaps an “FTP client” to fetch software for you – but ISPs, magazine Cover CDs like MacFormat's, and Mac OS Install CDs will provide enough to get you started. (See page 24 for further options after that.)

Modems

If you haven't got a modem built-in, which one should you buy? And how much do you need to know about the technicalities of configuration and fault-finding?

Your modem is your portal to the Internet – it links your Mac via the phone line to your ISP's computers, which in turn link you to the rest of the Net. If you don't already have a modem, choosing one can be confusing. They all claim to be better than the rest, offering extra features, faster speeds or more flashing lights.

The right speed

Modem speed is the most important factor to consider. This is measured in thousands of bits per second or Kbps. Most modems available today run at either 36.6Kbps or 56Kbps (often abbreviated to 56K – but don't confuse this with kilobytes, the conventional measure for file size, which is eight times bigger). The faster the modem speed, the faster data “downloads” from the Net to your Mac and the less time you need to spend on-line, reducing your phone bills. A one-megabyte (1,024 kilobyte) file may typically take around five minutes with a 56Kbps modem or about ten with a 33.6Kbps (phone lines and “traffic” permitting). A 56Kbps modem won't cost much more than a 33.6Kbps and you'll save enough on phone bills to make the 56Kbps a better buy in the long term.

Modem standards

But wait, there's more. The two major modem makers released different types of 56K modem: Hayes adopted the “K56flex” standard and US Robotics “x2”. An international standard, V.90, has now been agreed, and both companies now offer software (“firmware”) updaters to convert their products – if you buy one that isn't V.90 already, make sure it's “flash-upgradable”. Some ISPs, however, don't yet support V.90 connection. Check with your ISP what protocols it supports and make sure the modem you buy supports the same.



You'll need either an external modem such as this one, or an internal modem, like the one that comes fitted in iMac.

Troubleshooting

- ❑ When you buy a modem, make sure it comes with a Mac cable (many are designed for PCs).
- ❑ Modems will often come with bundled software – usually for Windows PCs. Useless.
- ❑ PPP dialler software such as OT-PPP or FreePPP (see page 8) controls your modem, so installing additional software that's supplied with the modem could lead to problems.
- ❑ Installing fax or voice software, however, shouldn't cause problems, so long as you remember to disable them before trying to connect to the Internet.
- ❑ To make your modem work with OT-PPP, you just select your model from the list of modem scripts. (Modem scripts are pre-made configuration files for modems which contain the information needed to get the modem working. The most important of these is the “initialisation string” – a sort of modem wake-up call.)
- ❑ You won't always find your modem model listed, so check its manual to see if the modem emulates (behaves like) any other – nearly all modems are Hayes or US Robotics compatible.
- ❑ If your dialler software doesn't use modem scripts then you may have to type in an initialisation string for your modem. In FreePPP, select **Modem Setup**, then try **AutoDetect**. If this fails, click in the line labelled **Use**: and type in **ATZ** or **AT&F** – if neither works then check your modem manual or contact the maker.
- ❑ That said, though, modem initialisation strings are not usually a problem – it's nearly always something else that's preventing an Internet connection from working properly.

Phone line options

Do you have to install a new phone line? Will your friends never be able to get through again? No problem...

You can connect your Mac to the Internet using any domestic or office phone line (it doesn't matter if you have to go through a switchboard – just add the digit you have to dial for an outside line before your ISP's dial-up access number). You don't even need a separate line (although you may find it useful) because, using nothing more sophisticated than a socket splitter, which you can get at electronics and DIY shops, you can plug your modem and your phone handset into the same wall socket. Basically, whichever one gets to the phone line first gets to use it.

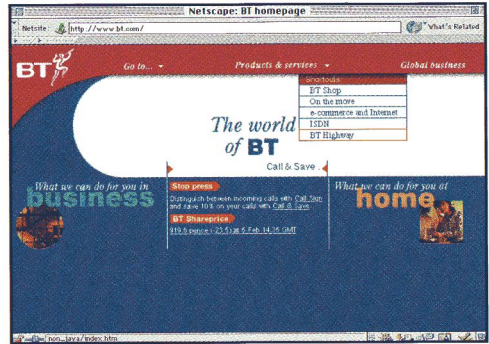
Not surprisingly, you can't get on-line while you're using the phone, or make phone calls while your Mac is connected to the Internet. People can't call you while you're on-line, either, and they can't leave a message on your answering machine (if you have one) because the line has to be available for the machine to take the message.

Call Minder

There is a solution to this little problem, though. BT advertises a Call Minder service that acts just like a domestic answering machine, but works at the exchange. This means that it can intercept calls and take messages not just when you're out, but when your line is engaged too. At the time of writing, BT's Call Minder service is £6 per quarter. Avoid BT's "Call Waiting" service, though: the pips that alert you to new calls will confuse the modem – though you can disable the service for a given call by adding a prefix to the ISP dial-up number.

Discount options

BT and other phone companies offer various discount schemes. BT's **Daytime Caller** costs 50p a month, but saves you 10% on local and regional daytime calls. **Call & Save** offers a 10% discount if



Save both time and money! BT's Web site is the first place to go when you've got your Internet connection. Here you can find out about discount schemes and ISDN...

your quarterly bill is between £25 and £70.

Friends & Family saves you 10% on selected direct-dialled numbers. **Premier Line** offers 15% discounts on calls for a £6 quarterly fee and if your bill is over £70. **BestFriend** is a free service which lets you nominate a single "best friend" number and save 20% on calls to that number.

It's well worth considering such schemes if you plan to be on-line a lot. Check with your phone company for its current schemes.

Home Highway and ISDN

BT has ended its recent special half-price offer on additional phone lines, so it will cost you £100 to have a second line installed in your home or office. (Other companies' prices are similar.)

Before you do that, though, you might consider BT's Highway scheme. It's basically digital ISDN technology but in a more affordable, consumer-friendly form. Highway gives you two lines, each of which can be used for ordinary analogue connection or digital, or the two can be used in parallel for 128Kbps digital connection. Digital lines run both faster and more reliably than a modem using a normal phone line, and offer much faster dial-up times (typically a second or so rather than half a minute), so even though the line rental is higher it may be cost-effective. (Calls cost the same.) Plus you can use the two lines at once, surfing the Web and talking to friends at the same time.

For digital connection, though, you will need to buy an ISDN "terminal adaptor" – either a plug-in card or, more usually, an external device. Physically, external TAs are barely distinguishable from modems, but can cost £250 or more – ouch.

"Truc" ISDN requires the installation of a new line, and the rental charges are pretty steep – an option for really dedicated Net users only.

Which System Extensions does

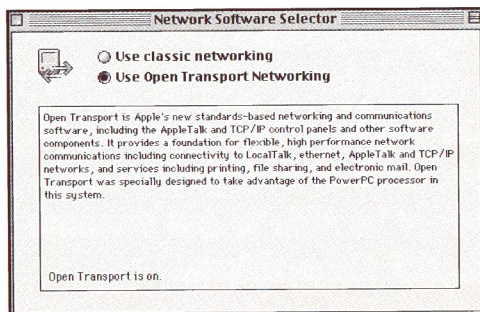
You can get connected to the Net with almost any Mac, but it needs to have the correct networking software running.

We've already mentioned that all your Mac needs to connect to the Internet is a modem, a working phone line, an account with an ISP, and two types of Extension – TCP (for handling and transferring data) and a version of PPP appropriate to your System (for connecting over a phone line). Exactly which of the range of TCP and PPP Extensions is right for your Mac – and therefore exactly how to configure your set-up for the Net – depends on which processor it has, how much RAM and which version of the Mac operating system it's running. On these two pages, we'll help you get your set-up right.

A matter of architecture

When your Mac connects via your modem to your ISP's server, you're essentially connecting to a massive network of networks, and in order to do this your Mac needs to know how to communicate with other machines. To your Mac, in fact, connecting to the Net is not fundamentally different from connecting to a small office network. Both tasks depend on your Mac's "networking architecture" – the set of System Extensions and Control Panels that add network support to your Mac.

There are two different networking architectures (software set-ups, in other words) on the Mac. Until System 7.5.2, each version of the Mac operating



If your Mac can run either "networking architecture", use the *Network Software Selector* program on your hard drive to choose Open Transport for its superior performance.

system came with "Classic Networking" (though the term wasn't actually coined until there was something else to contrast it with). With System 7.5.3, Apple introduced a new architecture, which is still in use today: Open Transport.

Essentially, both Open Transport and Classic Networking enable your Mac to accomplish the same tasks – in this case, connecting to the Internet. Open Transport, however, manages to do it more quickly and easily than Classic Networking.

Which architecture you should use largely depends on which version of the Mac OS you're running. Ideally, other things being equal, you should be running Open Transport for its far easier configuration and faster speed, but not all Macs are capable of running it. If your Mac is using System 7.1 or System 7.5 then it's likely you're using Classic Networking. If it's a 68000 or 68020 chip based Mac (e.g. Classic, Mac II or LC) you'll have to stick with Classic Networking. If it's

How will your Mac connect to the Net?

Processor & Mac OS version	68000, '020 (any System)	68030, '040, LC040 or PowerMac up to System 7.5.5	68030, '040, LC040 or PowerMac up to System 7.5.5	PowerMac/iMac with Mac OS 7.6 or later
RAM	(any)	4MB or less	More than 4MB	(any)
Recommended technology	Classic Networking (see page 18)	Classic Networking (see page 18)	Open Transport (see page 16)	Open Transport (see page 10)

your Mac need to get on-line?

Classic Networking or Open Transport

These are the vital files you should find in your System Folder:

Classic Networking	Open Transport
Network Control Panel	AppleTalk Control Panel
EtherTalk Phase 2 Extension	<i>not needed in System 7.5.3 and later</i>
Network Extension	<i>not needed in Mac OS 8.0 and later</i>

MacTCP Control Panel	TCP/IP Control Panel
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<i>If you use MacPPP (see note 1):</i>	PPP or Remote Access Control Panel
PPP Extension (v2.5)	<i>(see note 2)</i>
Config PPP Control Panel	

<i>If you use FreePPP (see note 1):</i>	Modem Control Panel
FreePPP Extension (v2.6)	Modem Scripts folder in
FreePPP Setup Control Panel	<i>your Extensions folder</i>
FreePPP LAP Driver Extension	

Notes

1. PPP didn't come as standard with Macs that use Classic Networking. You need to install it, and the System Folder items you'll find differ from one PPP variant to another. MacPPP and FreePPP are the most common; see page 18.
2. Apple Remote Access 3.0 replaces both ARA 2.1 and Open Transport/PPP with a consolidated system for remote/Internet access. In the very latest versions of the Mac OS, therefore, and also if you have upgraded to ARA 3.0, the PPP Control Panel is replaced by the Remote Access Control Panel. See page 17 for a full list of Open Transport System components.

a 68030 chip based Mac (e.g. Mac IIx, IIfx, LCII, LCIII, Performa 400) or a 68040 or 68LC040 chip based Mac (e.g. Quadra, Centris series, LC475, Performa 630) with 4MB of RAM or less in either case, the same applies. (Turn to page 18 for how to configure your Mac using Classic Networking.)

As a general rule, if you have a Mac with more than 4MB of RAM and a 68030 or later processor (including a PowerMac), you can (and should) run Open Transport. If you're using a System version earlier than 7.5.3, however, you will need to install OT (see page 16 for details of how you can do that, and how to configure it yourself – that is, without the Internet Setup Assistant that comes with the latest versions of the Mac OS).

If your Mac came with a System version between 7.5.2 and 7.5.5, it is probably capable of

running either technology. If so, it came with an application called *Network Software Selector* in the Apple Extras folder, with which you can select either Classic Networking or Open Transport. (We would, of course, recommend the latter.)

If you're using a PCI PowerMac (that's basically every desktop model from the PowerMac 7200, 7500 and 8500 to date, including Performa 5400 and 6400 models) or Mac OS 7.6 or later, you don't have a choice – Open Transport is installed by default. At least since Mac OS 8.0, you will also have got Apple's Internet Setup Assistant, which makes configuring your set-up as easy as possible – see page 10 for our guide to using it, or page 15 for doing the same manually. (Mac OS 7.6 came with the less sophisticated Internet Connection Kit – see page 21.)

Open Transport: three things to note

The "wrong" DNR file?

You may find a file called **MacTCP DNR** loose in your System Folder. This is still needed under Open Transport, even though OT doesn't use MacTCP any more. If you trash this file, it will simply be re-created next time you make an Internet connection. In fact, if you're having trouble with your TCP/IP

connections, or upgrading to a new version of MacTCP or OT, it's often helpful to delete this file (and the **MacTCP Prep** file in the Preferences folder – though if you do you'll need to re-enter some settings, so note them first!

Saving those settings

The **TCP/IP Control Panel** (check that you're using v1.2 or later)

can "Export" settings to a file, which is useful for saving them. You can also save multiple configurations by choosing **Configurations** from **TCP/IP's File** menu – ideal if you have several ISP accounts.

Switching modems?

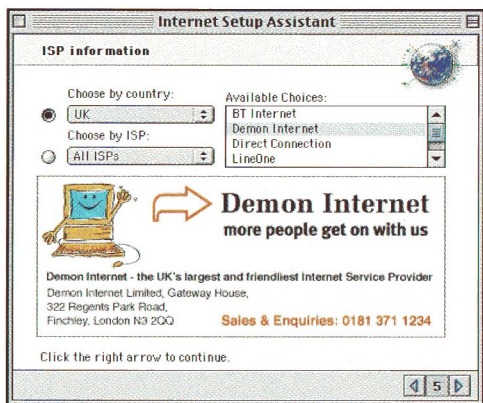
The **Modem Control Panel** can also save multiple configurations. Great if your alternative ISPs support different protocols.

Get on-line Mac OS 8:

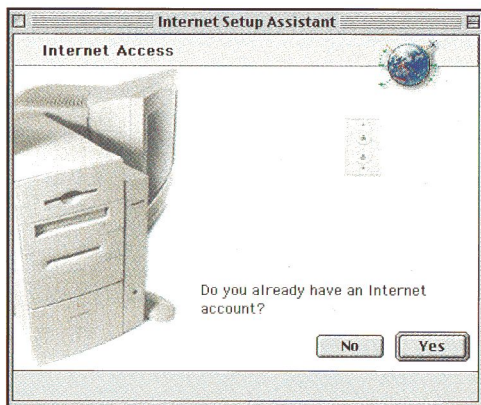
Getting connected couldn't be easier than in Mac OS 8.0, 8.1 or 8.5, thanks to the Internet Setup Assistant.

Apple's Internet Setup Assistant, which comes with Mac OS 8.0 and newer, can configure your Mac whether you have an existing ISP account or not. (For more on earlier "assistants", see page 21.) If you're new to the Net, the Assistant offers you the choice of registering with any of a selection of UK ISPs and then automatically configures your Mac for that ISP. Or if you've already signed up with an ISP, the Assistant helps you to configure your Mac's Internet Control Panels via an easy-to-use interface.

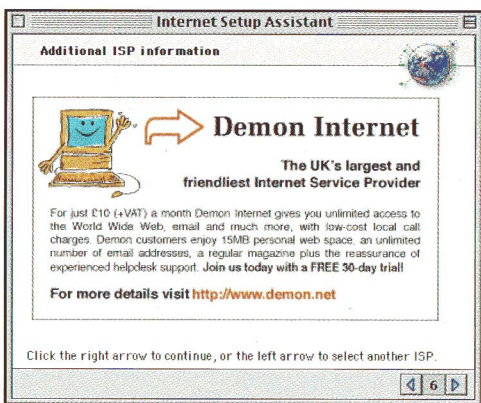
Before you begin, make sure your modem is plugged into your Mac's modem port (the socket marked with a little telephone symbol) and a working telephone line, and switch it on.



4 Select your country from the pop-up menu to make the right panel display a list of the pre-set ISPs. Click the name of the ISP to register with. (To help you decide which ISP to choose, refer to page 22 of this guide.) Click the right arrow to continue. If the ISP you want is not one of the pre-set choices, click the left arrow at the bottom of the screen until you get back to screen 3, and choose the "configure your ISP" option. (You'll then need to enter your details yourself – turn to page 12 of this guide.)

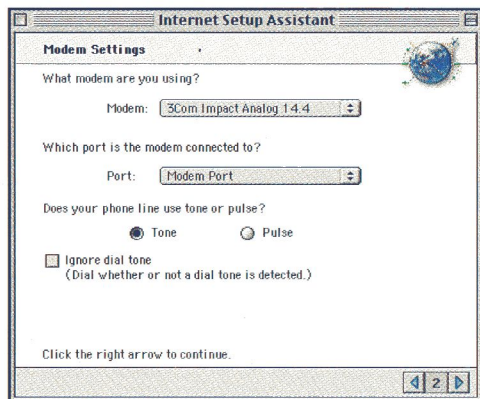


1 Whether you have an ISP account or not, the first few steps are the same: double-click on the Internet Setup Assistant in the Assistants folder on your hard disk. When prompted, click **Yes** to begin. On the next screen (shown here), click **Yes** if you already have an Internet account (and turn to page 12 of this guide). If you don't already have an account with an ISP, click **No** and continue. The Assistant now explains what it's going to do – click on the right arrow at the bottom of the screen to start.

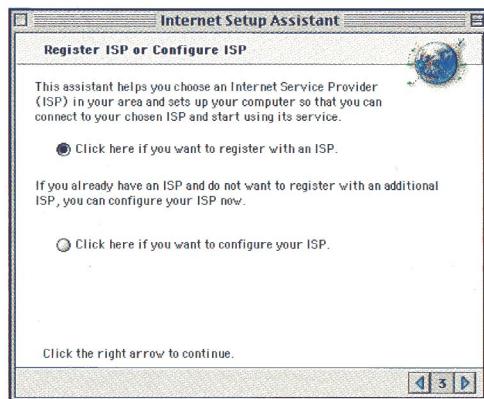


5 If you've chosen to go ahead with one of the pre-set ISPs, information on your selected ISP is displayed next. If you're not satisfied or you've changed your mind, click the left arrow to go back and choose another. If all is well, click the right arrow to continue.

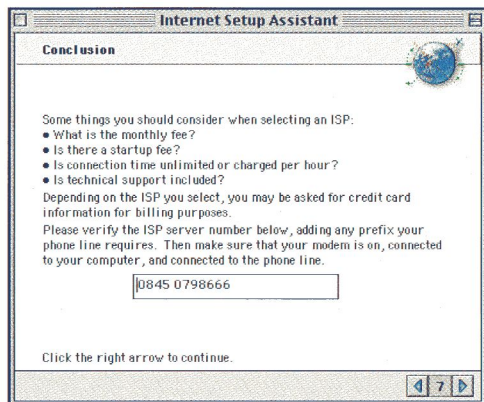
creating a new ISP account



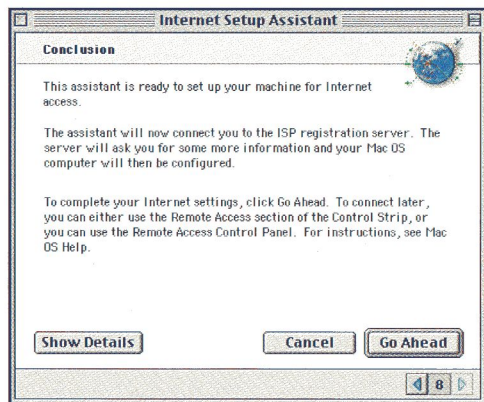
2 First choose your modem model (or ISDN TA or card) from the list (click on the up-and-down arrows next to the modem name and the full list pops up). If yours isn't listed, choose the closest match (see page 6 of this guide). If your phone "beeps" when you dial, leave the dialing option set to Tone; if it "whirrs", choose Pulse. Unless you're connecting through an office telephone exchange, you do not need to Ignore dial tone. Continue by clicking the right arrow next to the page number at the bottom.



3 Verify that you want to sign up with an ISP for the first time rather than configure an existing account, and click the right arrow to continue. The next screen is a notice telling you that Apple doesn't endorse any particular ISP – in other words, you're free to choose any of the ones listed or any other you like. If you have already signed up with an ISP or know that the ISP you want is not listed, click the "configure your ISP" button on screen 3 and then the right arrow, and skip to page 12 of this guide.



6 If you need to dial a prefix for an outside line (if you're connecting from your office, for instance), enter it, followed by a single comma, before the number shown. Click the right arrow to continue. Make sure your modem is on, connected to your Mac and plugged into a working phone line. The Assistant is now ready to dial your selected ISP's registration server and set up your new account for you.

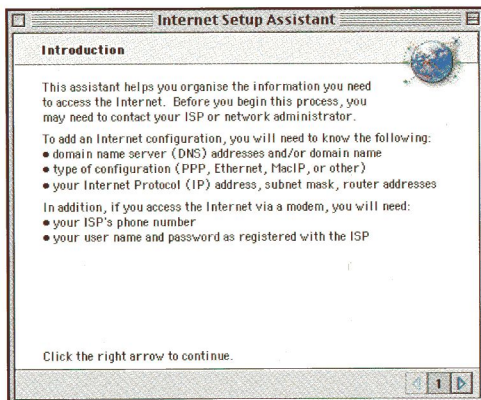


7 Click **Go Ahead** and your modem will connect, launch your Web browser program, and open your selected ISP's registration page. You'll need to enter your personal information including your name, address, telephone number and billing details. The exact process varies between the ISPs, but all five pre-sets are easy to use and require absolutely no technical knowledge. Your details will be verified and, if successful, the Assistant will configure your Control Panels for your newly-created account.

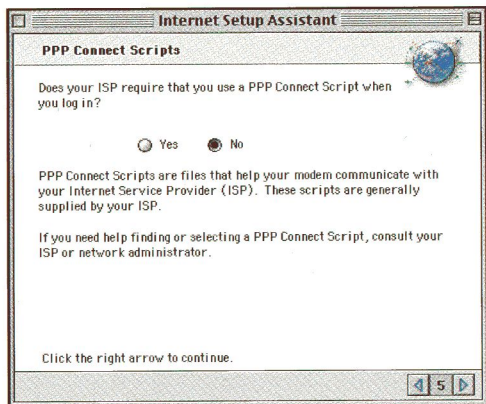
Mac OS 8: (re-)configuring an

The Internet Setup Assistant can also help you set up or modify your account details with your existing ISP.

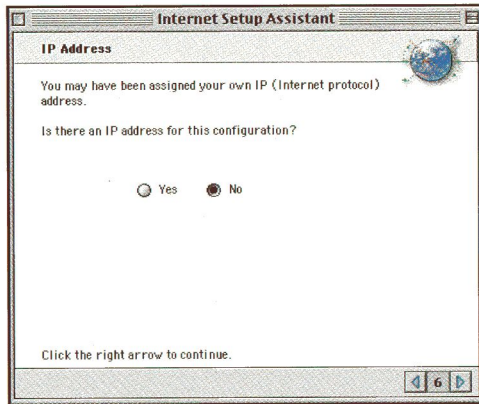
If you already have an account with an Internet service provider (or you've chosen an ISP which isn't one of the pre-set ISPs that the Setup Assistant will connect you to automatically), the Assistant can still help you get connected, but you'll need to enter certain settings yourself. So before you begin, make sure you have the configuration details to hand. Usually your ISP will include these in a welcome pack. You'll find an outline of the details you might need on page 2 of this guide – make a note of them there for easy reference if you like.



1 Double-click on the Internet Setup Assistant in the Assistants folder on your hard disk. When prompted, click **Yes** to begin. On the next screen (shown in step 1 on page 10 of this guide), click **Yes** if you already have an Internet account. You'll then see this screen, listing what information you might need (but you probably *won't* need some of it, such as subnet mask – if you will, your ISP will have told you). To continue, click the right arrow next to the number at the bottom of the screen.



4 Unless specifically told otherwise by your ISP, you don't need a connect script. If you do, follow the instructions supplied by your ISP to install it.



5 Again, unless specifically told otherwise by your ISP, it's safe to assume you do not have an IP address to enter, so leave it set to **No**.

existing ISP account

Internet Setup Assistant

Configuration name and connection type

What would you like to name this configuration?

UK Online

For example, "Home", "Work", "On The Road", etc. It is also common to use the ISP name.

You can connect to the Internet either through a phone line (using a modem) or through a network (as in a corporate office). If you plan to use Apple Remote Access to call into a local network, click "Network".

How will you be connecting to the Internet?

☒ Modem ☐ Network

Click the right arrow to continue.

2 Enter the name of your ISP as the configuration name and select the **Modem** button as your Internet connection. Click the right arrow and you'll see a screen asking you to specify what modem you're using – see step 2 on page 11 of this guide. Click the right arrow at the bottom of the screen to continue.

Internet Setup Assistant

Configuration information

What is the phone number for this configuration? Your computer calls this number to connect to the Internet.

0845 333 1121

What name do you use with this service (also known as your log-in name or user ID)? Leave this field blank for guest access.

nic.r

What is your password?

.....

You can leave this blank, but you will have to enter your password each time you use the Internet service.

Click the right arrow to continue.

3 Enter your dial-up access number, username and password as supplied by your ISP. (Remember, the dial-up access number is the one your Mac dials to connect to the Net, *not* the one you dial to get help or advice from your ISP's Support personnel.)

Internet Setup Assistant

Domain Name Servers

Domain name servers are entry points to the Internet. Each domain name server has its own DNS address. A DNS address is a set of four numbers separated by full-stops (as in

Some ISPs set your DNS information when you connect. If this is the case, you can leave this field blank.

What is the DNS address (or addresses) for this configuration? Specify up to ten of them. Enter each DNS address on a separate line.

195.40.112.10
195.40.119.1

What is the Domain Name (or host name) for this configuration? It is optional and consists of two or more words separated by full-stops (for example, apple.com)

ukonline.co.uk

Click the right arrow to continue.

6 It's possible that your ISP will configure DNS information for you automatically when you connect, so if you haven't been supplied with the DNS IP address (or addresses), simply leave the DNS field blank. If you have been given more than one number, then enter the primary address first, followed by the secondary below. Enter your ISP's domain name in the bottom field.

Internet Setup Assistant

E-mail address and password

What is the e-mail address for this configuration?

This address is where people send you e-mail (for example: chris@isp.com or pat@company.com or kelly@school.edu).

nic.r@ukonline.co.uk

What is the e-mail password for this configuration?

You can leave this blank, but you will have to enter your password when you want to receive mail.

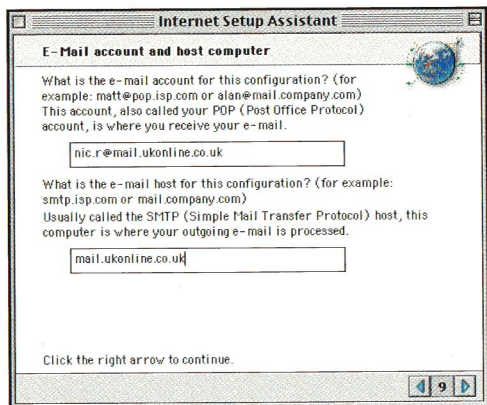
.....

What is the quoting character you would like to use? This character precedes each line of quoted text of an e-mail message.

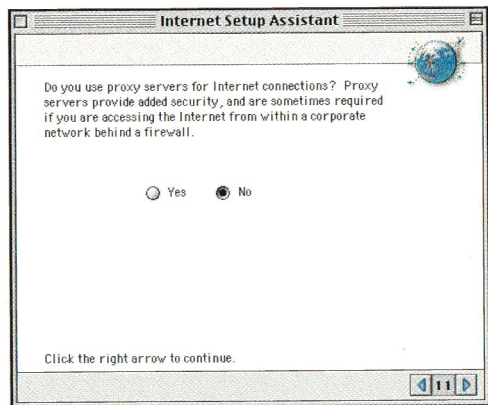
>

Click the right arrow to continue.

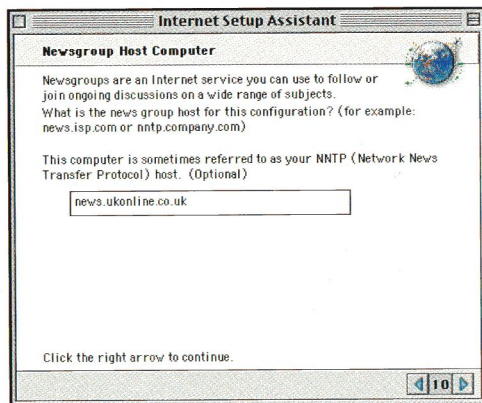
7 Enter your e-mail address on the next screen. Usually this will be a combination of your username and your ISP's domain name – **username@domain.co.uk**, for example. For simplicity, enter your password in the field below and leave the "quoting character" at its default. (What does this do? When you reply to an e-mail you've received, you normally have the option of including the text of the message you're replying to. Each line of it will begin with the "quoting character" – > is the usual one.) ➤



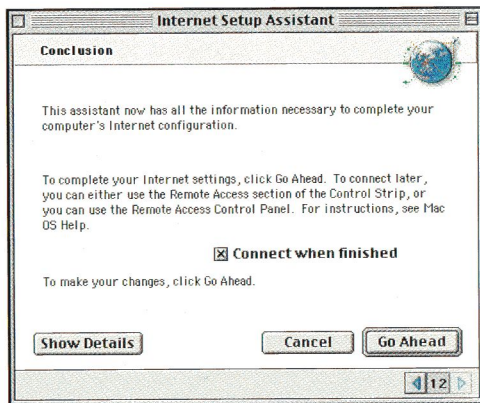
8 The next screen, confusingly, asks for your "e-mail account" address. It does *not* want your e-mail address again. In this box you should enter your username followed by the @ symbol and then the address of your POP server (POPmail or incoming mail address). Your ISP's documentation will include this under one of these names. In the other box, enter the SMTP server (outgoing mail or mailhost) address as supplied by your ISP.



10 Your ISP may have provided you a proxy or web-cache address. If you have this information, enter it here. You can leave it blank if your ISP doesn't need one. If you're not sure, it should do no harm to leave this blank (unless you're connecting from within your company network rather than over a modem – in which case your Network Administrator will help you out with this).



9 If your ISP supports newsgroup access, then enter the address of the NNTP or news server in this field. If you don't have newsgroup access, you can just leave this box blank.



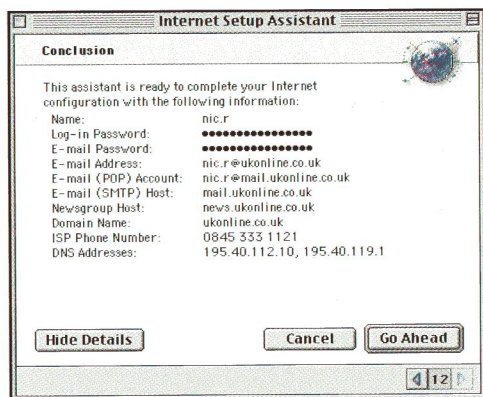
11 You've entered everything that's required now. If you don't want to connect straight away, uncheck the **Connect when finished** box (that is, click in it to make the check-mark in it vanish). Click **Go Ahead** to let your Mac auto-configure itself for your ISP account. Next time you connect, your Mac will use the settings you've entered.

What the Assistant does

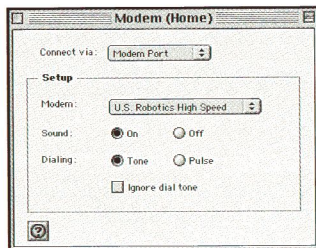
The Internet Setup Assistant simply uses your replies to configure three Control Panels. This is what it did...

Apple's Internet Setup Assistant makes it easy to get on the Net. Provided you're armed with the "Ten things you'll need to know" (page 2 of this guide), getting on-line is no more complicated than answering a series of questions. What the Assistant doesn't do, directly, is tell you what it actually did with your answers (though it does optionally display a summary of all the information you've entered at the end).

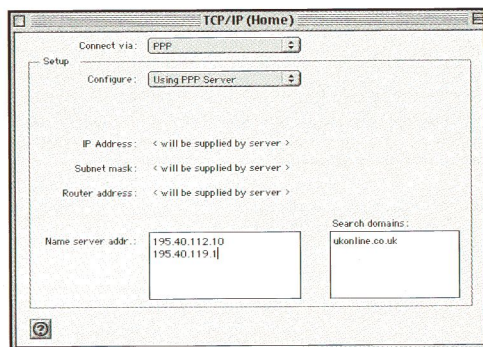
To get you connected, the Internet Setup Assistant modifies just three Control Panels on your Mac. You can get on-line without the Assistant just by making the required changes in these Control Panels. (They should be in the Control Panels folder within the System Folder on your hard disk.) Knowing which alterations you need to make to which Control Panels can often be the key to fixing things if they go wrong, and to getting on-line with other ISPs without having to go through the whole process again.



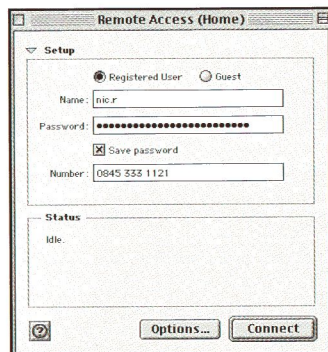
The Internet Setup Assistant is simply a step-by-step interface for configuring your system. At the end, you can review your settings.



Once the Internet Setup Assistant has done its work, you can open the **Modem Control Panel** to see how the Assistant has configured it for the modem you specified.



The **TCP/IP Control Panel** contains your ISP's primary and secondary domain name server addresses, plus its domain name. Again, these were entered for you by the Assistant.



The Assistant enters your username, your password and your ISP's dial-in access number in the **Remote Access Control Panel** (if you're using Mac OS 8.5) or the **PPP Control Panel** (if you have Mac OS 7.6, 8.0 or 8.1).

Getting on-line manually using

Open Transport is faster than Classic Networking, and easy to set up, too...

If you're running Open Transport, Apple's new networking system included with the Mac OS since at least 7.6, configuring your Internet connection is simple – just three Control Panels to set, using details from your ISP (see page 2).

With that done, you've now entered everything needed to connect to the Internet! But before you can use your Internet applications (such as Web browsers and e-mail software), you must use the **PPP** Control Panel to connect. Choose the **Connection** tab from within the **Options** in the PPP Control Panel and you can enable automatic connection. This means you won't then need to select Connect before launching your applications. Once your Mac is connected, the button in PPP renames itself to **Disconnect**; you simply click it to log off.

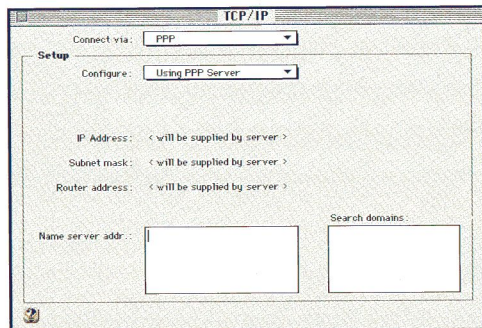
Installing OT on older Systems

If you're not already running Open Transport, how do you install it? Assuming your Mac can run it (see page 8), you could upgrade to Mac OS 7.6 or newer; or if you want to stick with your older System (though OT does require at least 7.1 to run), it can be downloaded from the Net (which of course requires a Net connection already...).

Once Open Transport has been installed, you need to install PPP dialler software. Apple's own OT/PPP is by far the simplest to configure and use. OT/PPP v1.0 requires System 7.5.3 or later (if you have an older System, you can also download 7.5.3 – but really you should upgrade to 7.5.5, which is much more stable, or 7.6). The OT/PPP v1.0 installer is also available for download; or if you have Mac OS 7.6 or 7.6.1 you'll find it on your original System CD in the **CD Extras** folder.

Tip: the files you don't need

If you try to open the AppleTalk Control Panel but get an error message saying that "OTGlobalLib" is missing, don't try to look for it. It's actually not a separate file but part of the OpenTransportLib file. Similarly you may get a message under Mac OS 8 that "OTUtilityLib" is missing. It too isn't a separate file. The full list of OT components is on page 17; the solution is to ensure that all are present.



TCP/IP: Set the **Connect via:** option to **PPP**. **Configure** should be set to **Using PPP Server** unless your ISP has told you otherwise. In the **Name server addr:** field, enter the IP addresses of your ISP's primary and secondary DNS server. In the **Search domains:** field enter your ISP's domain name. (See page 15 for an example configuration.)

Where can you get it?

Open Transport is installed as standard with Mac OS 7.6 and newer, and that's the best way to get it. If you don't have that, but you are running a System between 7.1 and 7.5.5, all the software needed for OT is freely downloadable from Apple's Support FTP site; the addresses are below. If you don't have access to a Mac with a working Internet connection (or a friend with one), contact your ISP and ask if they can send you the software on CD-ROM or floppy disk.

Open Transport v1.1.1

ftp://ftp.info.euro.apple.com/Apple.Support.Area/Apple_SW_Updates/English-British/Macintosh/Networking-Communications/Open_Transport/

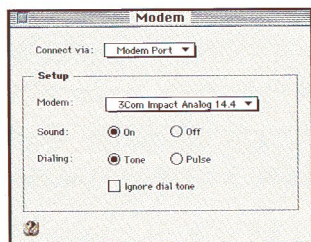
OT-PPP v1.0 installer

ftp://ftp.info.euro.apple.com/Apple.Support.Area/Apple_SW_Updates/US/Macintosh/Networking-Communications/Open_Transport/OT_PPP_1.0.sea.hqx

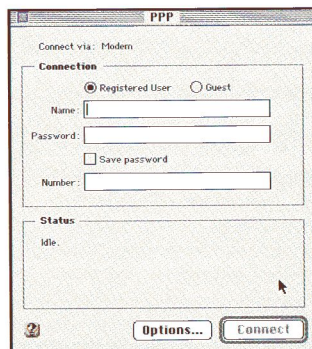
System 7.5.3

ftp://ftp.info.euro.apple.com/Apple.Support.Area/Apple_SW_Updates/English-British/Macintosh/System/Older_System/System_7.5_Version_7.5.3/

Open Transport



Modem: Choose which port your modem or ISDN adaptor is connected to. Choose its model (or the nearest you can find) below and select whether you wish to hear it dialling. If your telephone makes electronic "beep" sounds when you dial then leave the dialling option set to **Tone**; if it "whirrs" choose **Pulse**. Unless you're connecting through an office telephone exchange, you don't need to **Ignore dial tone**.



PPP: Enter your username and password, as supplied by your ISP. **Save password** saves you having to type it in each time, but you may prefer to do so if other people use your Mac. Enter the ISP's dial-up access number and close the Control Panel to save your settings without connecting.

Open Transport files

Open Transport needs the following files to function – check that they're all present. (The latest versions are indicated.) For more on OT, see also page 8.

Extensions:

Serial (Built-in) (v1.3.3)
Shared Library Manager
Shared Library Manager PPC

Shared Libraries (also in Extensions folder):

OpenTptAppleTalkLib (v1.3)
OpenTptInternetLib (v1.3)
OpenTransportLib (v1.3)
(On pre-PowerMac models, "68K" versions of these libraries are required for Open Transport to work. They are **not** needed on PowerMacs and will actually slow them down, so search for Libraries with "68K" in their names and remove them if found.)

Other support files (also in Extensions folder):

Open Tpt AppleTalk Library (v1.3)
Open Tpt Internet Library (v1.3)
Open Transport Library (v1.3)
(Confusingly, these are not the same as the Shared Libraries with almost-identical names; you need both sets of files in your Extensions folder.)

Control Panels:

AppleTalk (v1.1)
TCP/IP (v1.3)

Open Transport/PPP

In addition to all these, to connect to the Net over a modem or ISDN line you need OT/PPP, a version of PPP (point-to-point protocol). OT/PPP requires Open Transport 1.1.1 or later, plus these files:

Shared Libraries (in Extensions folder):

OpenTpt Modem (v1.0/v3.0)
OpenTpt Remote Access (v1.0/v3.0)
(68K Macs need their own version of these instead: these have "68K" in their names.)
OpenTpt Serial Arbitrator (v1.0/v3.0): only useful if you have fax software set to monitor for incoming faxes. It is however known to cause some conflicts; remove it if you don't need it.

Control Panels:

Modem (v1.0/v3.0)
PPP (v1.0). (In the latest versions of the Mac OS, and also if you have upgraded to Apple Remote Access 3.0, this is replaced by the **Remote Access Control Panel**.)

If you're using the Setup Assistant

You may also find a file called **Internet Access** in your Extensions folder. This is a shared library required by the Internet Dialer, Internet Setup Assistant and other Apple-supplied Internet connection aides – it is part of the Apple Internet Connection Kit and the Mac OS 8 Internet Access Kit, for instance. It works with the **Internet Config** Preferences file to specify Internet settings.

Getting on-line manually using

If your Mac isn't running Open Transport, here's how to configure it for Net access using MacTCP and FreePPP...

One of the essential System components for getting connected is **MacTCP**. Check to see if it's in your Control Panels or your original System disks. If you don't have it, your ISP should be able to provide you with a copy – phone their support desk and ask. (Apple's latest version is 2.0.6; v2.0.8 is an unofficial "bug-fix" but is fine.) MacTCP can't be downloaded free from the Net.

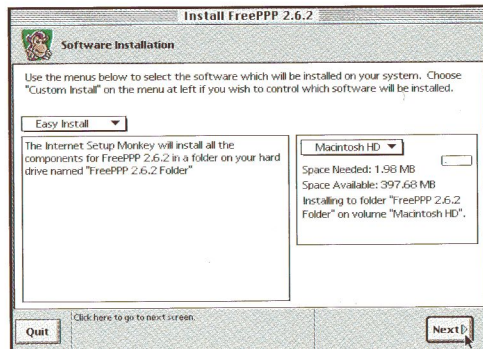
Once you've installed MacTCP, you need to install PPP dialler software (to establish a dial-up connection with your ISP). Various diallers are available, but the most common are FreePPP and MacPPP. FreePPP is actually based on MacPPP and has made many improvements both graphically and technically. We recommend FreePPP for its ease of installation and set-up.

SNMP Macintosh Agent, SNMP MacTCP Agent, SNMP Manager, SNMP TCP/IP Transport, and Mac SNMP Client (all v1.0.2) are all installed under Classic Networking by the MacTCP 2.0.2 installer. They are not needed under MacTCP 2.0.6 (or OT); remove them if you find them on your Mac.

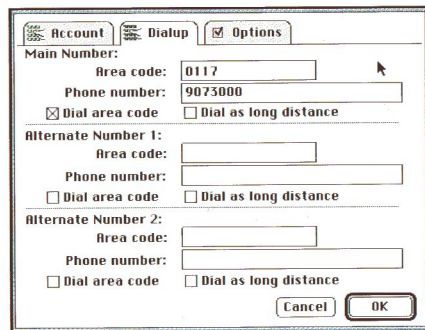
PPP software variants

Several software packages are available to provide dial-up PPP access to your ISP. FreePPP is the most popular, so we've featured it here. Your ISP may have supplied you with different PPP software, such as MacPPP/ConfigPPP, InterPPP or SonicPPP. The principles of configuring these are the same, although their interface can vary. You can download FreePPP from the address below, but if you don't know anyone who already has Net access to download it for you, don't want FreePPP or can't see how our guide applies to what you have, contact your ISP for instructions on configuring your software.

FreePPP (for Classic Networking)
<http://www.rockstar.com/ppp.shtml>

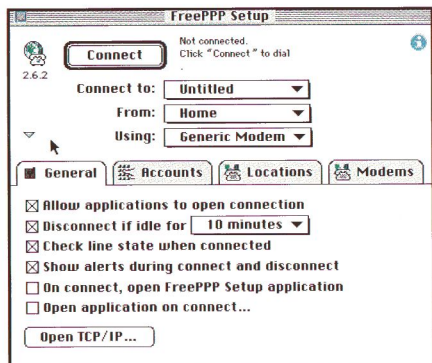


1 Launch the FreePPP Installer and follow the on-screen prompts to install it. Restart your Mac when the installer has finished.

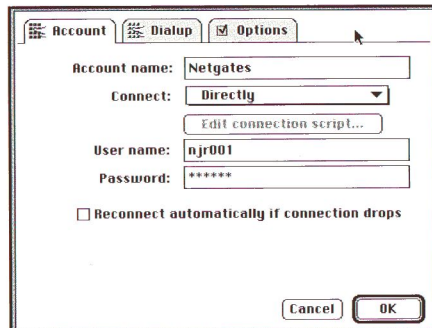


4 Enter the area code of your ISP's dial-up access line and the phone number. Click the **Dial area code** if the area code of the ISP is different from your telephone area code. If your ISP has more than one dial-up number, enter them in the **Alternate number** fields. Then click the **Options** tab at the top of the window to continue.

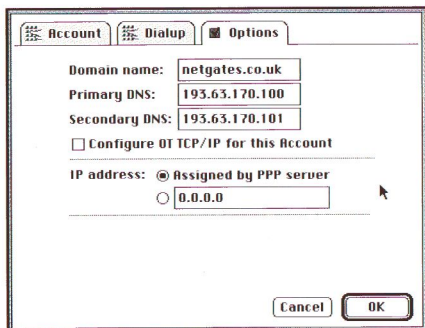
Classic Networking



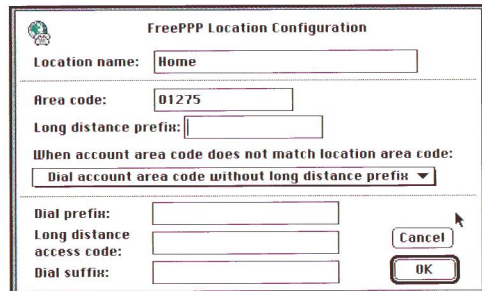
- 2** Open the **FreePPP Setup** application inside the FreePPP folder which has been installed on your hard disk. Click the triangle to make the window larger, revealing various configuration options.



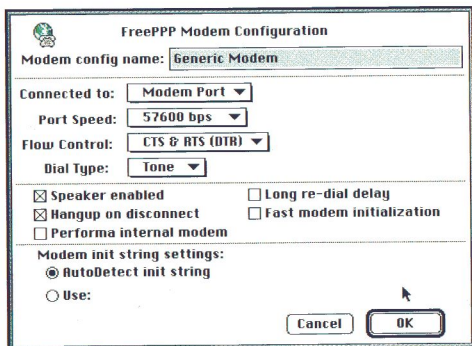
- 3** Click the **Accounts** tab and press the **Edit** button to configure your ISP account. Enter the name of your ISP in the **Account name** field, along with the user-name and password supplied by your ISP (see page 2). Then click the **Dialup** tab of the window to continue.



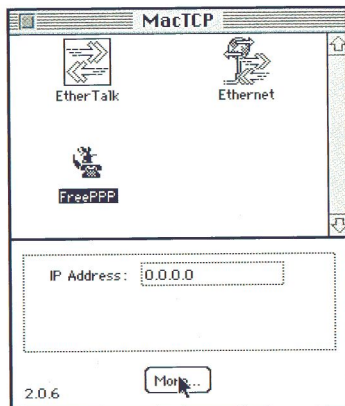
- 5** Enter your ISP's domain name in the **Domain name** field. Enter the address of the primary and secondary DNS servers in the relevant fields. (If your ISP hasn't provided a secondary DNS address, leave that field blank – see page 2.) Unless specifically told otherwise by your ISP, you should set your IP address to **Assigned by PPP server**. Click the **OK** button to continue.



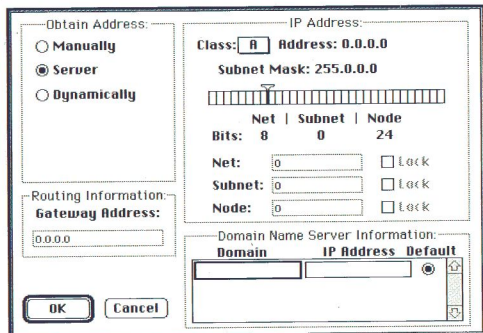
- 6** Click the **Locations** tab and press the **Edit** button to configure your location settings. Enter an appropriate name (e.g. "Home" or "Office") in the **Location name** field. Enter your telephone area code and select **Dial account area code without dialling long distance prefix** from the pop-up menu. If you need to dial a prefix for an outside line (if you're connecting through your office switchboard, say), enter it in the **Dial prefix** box, before clicking **OK**.



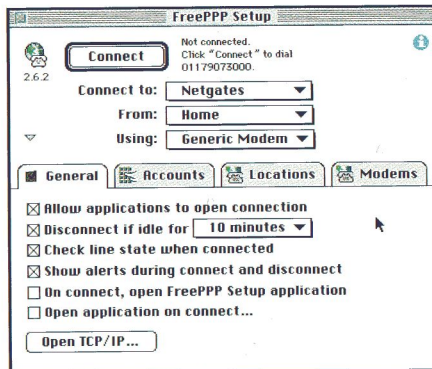
7 Click the **Modems** tab and press the **Edit** button to configure your modem. Enter an appropriate name (e.g. the name of your modem) in the **Modem config name** field and select which port the modem is connected to. If your telephone makes electronic "beep" sounds when you dial then leave the dial type set to **Tone**; if it "whirrs" choose **Pulse**. If you want to hear your modem dial, enable the speaker option. Leave the remaining options alone, unless specifically told otherwise by your ISP. Click **OK** to continue.



8 Quit the set-up application and restart your Mac. Open the MacTCP Control Panel and select **FreePPP**. (If you're using another PPP variant, it should appear here in the same way.) Click the **More** button to continue.



9 Click **OK** and enter your IP address if you have one, or leave it set to "0.0.0.0". Close the Control Panel, restart your Mac and you're ready to connect.



10 To connect to your ISP, you can either open **FreePPP Setup** or use the **FreePPP** menu in the top right corner of the menu bar. Choosing **Connect** either way will cause your modem to dial into your ISP's server and enable you to run your Internet applications. Once you're connected, the button and menu item rename to **Disconnect** - selecting this will end your Internet session.

Automatic configuration?

Setup kits and configuration utilities are supposed to make life easier, but do they just make it more confusing?

The idea of an Internet connection kit is perfectly sound. Setting up TCP and PPP Control Panels manually could well prove daunting to complete beginners, and a step-by-step walkthrough that simply asks the necessary questions and then does the job for you is the ideal solution in these cases.

However, there's more than one connection kit on the market (many ISPs supply their own), they work in different ways, and they may install different/older versions of System software you've got already, clouding the issue still further. Many kits also install software like Web browsers and e-mail programs, and it may be impossible to disentangle useful items like these from Control Panels and System Extensions you don't want.

Apple's Internet Setup Assistant, examined in depth on pages 10 to 15, is pretty foolproof, and probably the best solution yet. It takes over where the old Apple Internet Connection Kit left off...

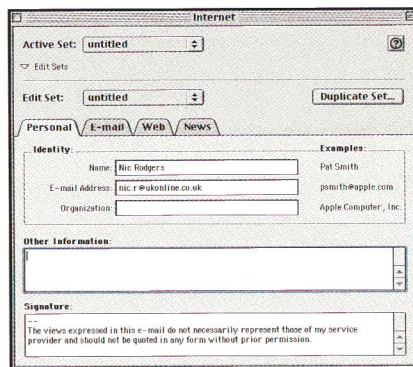
The AICK was a good idea, but it proved confusing to use and to configure for different services. It hid all the technicalities so successfully that it was difficult to work out what it had done and why. It wasn't popular among ISPs or other support professionals, for similar reasons.

Unless your Mac has the Internet Setup Assistant (or you trust your ISP's own kit), our view is that you're better off configuring your Control Panels manually – at least you'll know what's going on.

Internet Config

Apple's Internet Connection Kit may have been of limited value, but there's one utility that is genuinely useful – Internet Config.

Configuring your Mac for the Internet can be a time-consuming business. There are endless settings and addresses to enter into every Internet application you use – and, what's worse, you often find yourself entering the same information, such as your e-mail address, over and over again in each one. Internet Config was introduced in an attempt to serve as a centralised database of these



Mac OS 8.5's **Internet Control Panel** is the front-end to **Internet Config** – possibly the most time-saving configuration utility of them all.

essential settings and configurations.

Since its introduction several years ago, Internet Config has gone through several incarnations, each version better than the last. It's now incorporated in the Mac OS as the Internet Config Extension. You don't interact with this Extension directly, but use various configuration applications. In Mac OS 8.5, the **Internet Control Panel** is a front-end to Internet Config, enabling you to configure its settings easily. Without Mac OS 8.5, Internet Config is configured with the *Internet Config Setup* application. The interface can vary between versions, but the configuration settings are virtually identical whichever way you do it – provided you go to the **Edit** menu and choose **Advanced** from the **User mode** option. Do this or you'll be able to change only a few basic settings.

Applications must be written specifically to support the retrieval of Internet Configs settings, so some older programs may require you to enter some settings again. The majority of applications released in the last year, though, and virtually all of those being released now, are Internet Config compliant – check the applications' ReadMe files.

Internet Config is an invaluable companion for anyone with an Internet connection. If you don't have Mac OS 8.5, you can download the latest version of the Internet Config package from <http://www.stairways.com/stairways/ic/index.html>. It's worth spending ten minutes or so configuring it with the information provided by your ISP because, once it's done, you may never need to enter it again!

Netguide

Choosing an ISP

Do you want vetted, high-quality content, 24-hour technical support or simply a cheap connection to the Internet? There's sure to be an Internet service provider to suit you...

The equipment needed to connect directly to the Internet is expensive and beyond the budget of individuals or small companies. This is the province of Internet service providers (ISPs), companies which connect individuals (and smaller companies) to the Internet on a temporary basis via "dial-in" numbers. When you (or your Mac, to be precise) dial in, your modem connects with a modem at the ISP end, the two modems establish communication, and while they remain connected you have access to the Internet.

ISPs have whole banks of modems waiting for calls from subscribers. Not surprisingly, though, they don't have a modem waiting for each one. There may be times (rare these days) when you call up and all the modems are engaged. Some ISPs publish "modem-to-user" ratios as a selling point, but nobody can guarantee you an instant connection every time you dial in.

Why they charge

This hardware isn't cheap. And running costs are high, too, since the ISP must pay high line rental costs, must employ engineers to fix any faults, and will run technical help and sales departments too. That's why you have to pay an account fee (usually monthly). It's like paying your telephone company for providing and maintaining your telephone service. Some ISPs now offer a "free" service, but you still pay for the phone call and they usually get a cut of that. More on this shortly.

Free Web space

In addition to connecting you to the Internet, most ISPs offer further services. One of these is free Web space so that you can set up your own Web site. The reasons why you might want to do this are as varied as Web users themselves. You might

want to share your hobby with other people, or you might want to promote your business. If this is of interest to you, find out how much free Web space you get, and whether you're allowed to use it for commercial purposes – some ISPs offer separate "business" services which they may insist you swap to if you want to do this.

You may get, say, only 5MB of Web space. But don't worry – this goes a lot further than 5MB of hard disk space. This is largely because graphics designed for use on the Web are kept very compact (normally in the very economical GIF and JPEG formats) – they have to be, because bigger files take longer to download, and potential viewers of your Web page aren't going to sit and wait while their phone bills mount up.

News servers

As well as free Web space, your ISP will almost certainly provide access to Internet newsgroups via a "news server". There are now tens of thousands of newsgroups, and these are routinely copied around the world on to various different "news servers". Your ISP may provide only a selected or limited range of these newsgroups.

Multiple e-mail addresses

All Internet accounts come with an e-mail address, but many ISPs offer five or more. What's the point? Well, if your whole family is using your Mac for Net access, each person can send e-mail with their own name on it. In a small business, you could set up an e-mail address for one or two specific employees, another for "sales", another for "technical support" and so on, and route incoming mail to the right recipient. (Note that multiple e-mail addresses is not the same as multiple *accounts* – ask your ISP if you're unsure.)

Technical support

On the subject of technical support, this is something else that your ISP should provide. Although this guide sets out to tell you everything you should need to know to get connected, it's still possible to encounter problems specific to your ISP or your hardware/software set-up. ISPs often update and change their services, too, so you may need their help in re-configuring your system.

Free ISPs

"Free" ISPs are big news at the moment. The first "free" services were financed by "banner" ads on the pages you viewed, but then someone had the bright idea of exploiting BT's discounts on leased lines. You don't pay a charge to the ISP, but you

do pay for the call, and the ISP takes a cut of this. "Free" ISPs earn revenue equivalent to local call rates when subscribers call in, and the difference between this revenue and what they have to pay BT is enough to support the service. There are no strings. But don't expect free Web space, free support (quite the contrary!) or any other frills.

On-line Services

CompuServe, AOL and UK Online are "On-line Services" or information providers as well as ISPs. They do offer Internet access, but their principal service is premium-quality, vetted (and often exclusive) information. They don't cost a fortune, but you have to want the information they offer. Their "kid-safe" channels are often popular with parents.

Which ISP?

We've listed all the companies offered by the *Internet Setup Assistant* (*), plus a selection of other Mac-friendly Internet service providers. The monthly fee quoted is for unlimited Internet access and includes UK VAT at 17.5%. "Multiple" e-mail addresses give you the option of creating as many custom addresses as you wish.

Name of ISP	Phone number for enquiries	56K standards	ISDN?	Tech support	Free Web space	E-mail addresses	Monthly fee
Abel Internet	0131 445 5555	all	Yes	7 days, 14 hrs	10MB	Multiple	£11.16
Atlas Internet	0171 312 0400	V90, flex	Yes	7 days, 6 hrs+	None *	Multiple	£11.75
* Professional Web hosting service for businesses offered							
AOL *	0800 376 5432	all	No	7 days, 9 hrs+	10MB	5	£16.95 **
* Includes extra exclusive content ** Unlimited access. Low-usage: £4.95 for three hours, then £2.35 per hour							
BT ClickFree	0800 731 7887	flex	Yes	7 days, 16 hrs	None	Multiple	Free
* BT Internet	0800 800 001	flex	Yes	7 days, 24 hrs	10MB *	5 *	£11.75 *
* Plan Unlimited account. Plan 180: £4.70 for three hours, then £2.35 per hour (no Web space or e-mail)							
CompuServe *	0990 000200	V90	Yes	7 days, 16 hrs	5MB	1	£17.95 **
* Includes extra exclusive content ** Unlimited access. Low-usage: £6.20 for five hours, then £1.95 per hour							
* Demon Internet	0845 272 2666	all	Yes	7 days, 24 hrs	15MB	Multiple	£11.75
* Direct Connection	0800 072 0000	V90, flex	Yes	7 days, 7 hrs+	20MB	Multiple	£13.50
Easynet	0845 333 4000	V90, flex	Yes	7 days, 24 hrs	Unlimited	Multiple	£11.99
Enterprise Internet	0845 604 0174	V90, flex	Yes	7 days, 6 hrs+	25MB	Multiple	£11.75
Global Internet	0870 909 8076	V90, flex	Yes	7 days, 24 hrs	50MB	Multiple	N/A *
* £35.24 per quarter (equals £11.75 per month)							
* LineOne	0800 111 210	all	Yes	7 days, 16 hrs	50MB	5	£9.99
NetDirect	0800 731 3311	all	Yes	7 days, 9 hrs+	25MB	Multiple	£14.09
NetMatters	01502 58000	V90	Yes	7 days, 13 hrs	5MB	20	£14.10
Nildram	0800 496 2910	V90, flex	Yes	7 days, 14 hrs	25MB	Multiple	£11.75
Pavilion Internet	0845 333 5000	V90, flex	Yes	7 days, 16 hrs+	Unlimited	Multiple	£14.75
Power Internet	01908 605188	V90, flex	Yes	7 days, 24 hrs	25MB	Multiple	£14.10
Prestel Online	0990 223300	V90, X2	Yes	7 days, 24 hrs	Unlimited	Multiple	£10.56
UK Online	0845 333 4500	V90, flex	Yes	7 days, 24 hrs	Unlimited	Multiple	£11.99
* Virgin Net	0500 558800	all	TBA	7 days, 24 hrs	10MB	5	£11.99

All details are correct as we go to press, but please check details carefully with ISPs before signing up.

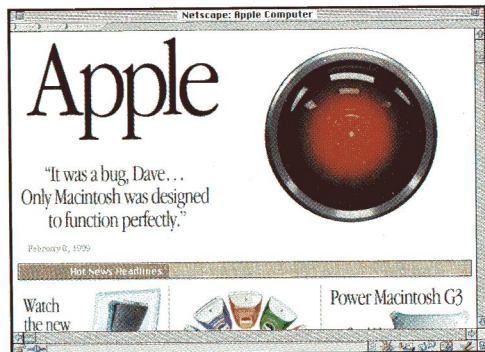
Browsing the Web

The World Wide Web is the popular, graphical, dynamic face of the Internet. Here's how it works, and how you can get more out of it.

The World Wide Web ("the Web" for short) is the collective term for millions upon millions of "pages" of information that you can view on-screen, with graphics as well as text, and often with video, sound or animation too.

Web browsers are the programs that fetch these pages and display them on your Mac. But Web pages aren't like ordinary documents. Word processing documents or spreadsheets, for example, are already formatted with specific fonts, margin settings, document sizes and so on. Web pages, though, are nothing more than raw text with embedded codes telling your Web browser how to reconstruct them on your screen.

There are two reasons for this. First, plain text files, even with embedded codes, are small and therefore much faster to transmit. Second, it has to be possible to view Web pages on many different types of computer (Mac, PC, Unix and so on) with different screen sizes, fonts, or operating systems...



Web pages consist mostly of text, graphics and links. The latest HTML enhancements and design techniques, though, enable designers to create striking, interactive Web sites.

In fact, HTML (H^yperT^ex^t Markup Language, the code used to construct Web pages) is the closest thing to a "standard" file format in computing.

Lost graphics and other media

Your Web browser, then, reconstructs Web pages from the information embedded in the HTML file. The graphics you see on the page, though, are not stored in this file. Instead, there are codes in the HTML file which tell the browser to fetch any graphics needed, where to get them, where to put them on the page and how big they should be.

This is why you sometimes see pages with missing graphics – empty boxes containing a "broken graphics" symbol. Your browser has looked for the picture requested, but not found it.

Graphics take much longer to download (fetch onto your Mac) than text, and for this reason some people prefer to switch off the graphics display in their browsers. This isn't a very popular

Netscape or Explorer?

There are two dominant Web browsers: *Netscape Communicator* and *Microsoft Internet Explorer*. Both are free, and they're often supplied together, on Mac OS CDs and magazine Cover CDs for example. Both are up to version 4.5, and now PowerMac-only.

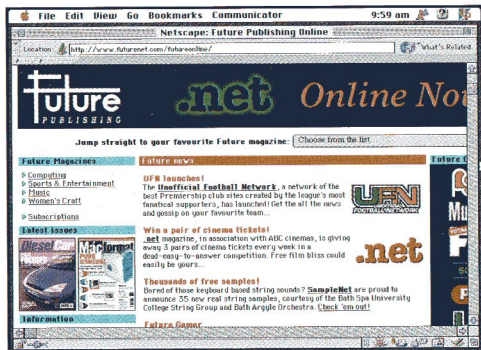
Both are up-to-date, and there are more similarities between them than differences, but they do diverge in approach (*Netscape* puts bookmarks in the menu bar at the top of the screen; *Explorer* has a "Favourites" tab to the side), and in features (the newer *Explorer 4.5* is far more Mac-friendly than it was, and has made it easier to print or copy Web pages).

Netscape Navigator is the browser part of the *Communicator* suite, which also includes an e-mail program,

newsgroup reader and an effective Web page designer. *Explorer* comes with a very good e-mail program (*Outlook Express*), which also handles newsgroups.

Explorer dominates on the PC, thanks to aggressive marketing and bundling with the Windows operating system. (Some Mac users reject it for that very reason.) *Explorer 4* is a good browser but not your only choice: *Netscape* matches it, though the two tend to leapfrog each other, each new version adding improved features.

(If you have a pre-PowerMac model, *Netscape* makes older versions of *Navigator* available for download. Microsoft has promised to re-release a 68K-compatible version of *Explorer 4.1*. If your Mac is very ancient, hunt out *MacWeb*, an old browser with very modest system requirements – but frankly it can't handle most of the best stuff on modern Web pages.)



HTML is probably the closest the computing world will get to a "standard" format. The Futurenet Web site has to look the same on a Mac running *Netscape Navigator*...

strategy these days, though, partly because of the increased speed of modems and Internet connections and partly because many Web site designers now use highly sophisticated graphics-based layouts – without the graphics, the page becomes confusing or navigation impossible.

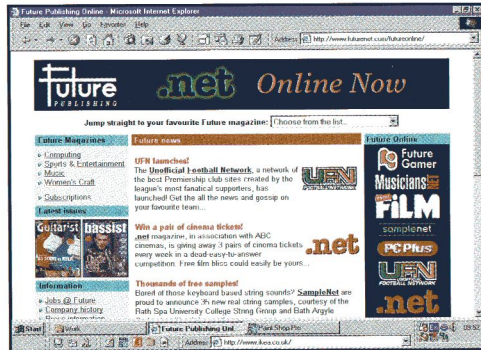
Multimedia elements are becoming common, too, but you usually need "helper" software on your Mac for them to work, such as Macromedia's Flash player for certain animations, *RealPlayer* for audio and some video, and QuickTime for video. Luckily, many sites offer you the chance to download the helper software you'll need.

Links you can't follow

Most Web pages you see are stored on computers permanently connected to the Internet ("servers"). When you enter a Web address (a URL or Uniform Resource Locator) into your browser it locates that page by first finding the right server, then the right page. All this information is built into the Web address. However, once you've found one Web page, you can follow links to others, which aren't necessarily stored on the same computer or even in the same continent. Either a piece of text (conventionally coloured blue) or a graphic can be a link to another Web page, and many designers are now using pop-up menus and "image-maps" – larger images with clickable zones that take you to different destinations. That's why you have to wait for your browser to find and fetch each new page – or why it sometimes can't follow a link at all.

Dubious design

Web sites, you'll soon discover, vary an awful lot in terms of design. Although the HTML language was once very basic, enabling you to do little more than insert pictures into text, make words a



... as it does on a Windows PC running *Internet Explorer 4*. Web pages are not pre-formatted – they arrive with a set of instructions on how your browser should "build" them.

bit bigger or a bit smaller, and add links, it's now capable of magazine-style multi-column layouts and the kind of sophisticated navigation and interaction you expect to see in multimedia CD-ROMS.

Mostly, these designs are actually built around very simple "tables". Many designers also use "frames", though, which are effectively individual Web pages displayed in two or more "panes" in the same window. Frames can be a very effective design and navigation tool. In the wrong hands, though, they can be highly confusing and inconsistent, so as you browse some of the Web's more experimental Web sites, don't be surprised if you get lost now and then.

Reliability

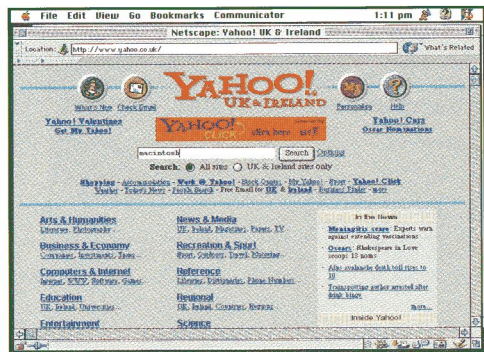
The Net is not 100% reliable, either. International telecoms links may break down or, more likely, just get overcrowded. It's a well-known phenomenon for UK users that the Internet slows down when the American continent wakes up around lunchtime – UK evening call rates are cheaper, but delays and download times can be longer.

Individual Web sites can be unreliable, too. Sites set up by individuals or well-meaning amateur organisations can be very flaky indeed, with poor design, links or graphics that don't work properly and a multitude of "Under Construction" signs.

On a local level, your ISP's modems might all be busy. This isn't a common problem these days, but it's still possible to dial up your ISP only to get an "engaged" tone. Just try again straight away – ISPs have so many users, and so many modems, that people are logging on and off every second.

Save money by browsing off-line

Doing the same can save you money, too. Using the Internet can be a costly business, even at



Finding the Web sites you want can be time-consuming! The Yahoo site combines a search engine with a browsable directory of Web sites organised by subject matter.

local call rates. At a typical daily rate of 5p per 75 seconds, for example, your Internet connection is costing you £2.40 an hour – and it's easy to spend an hour or more on the Internet.

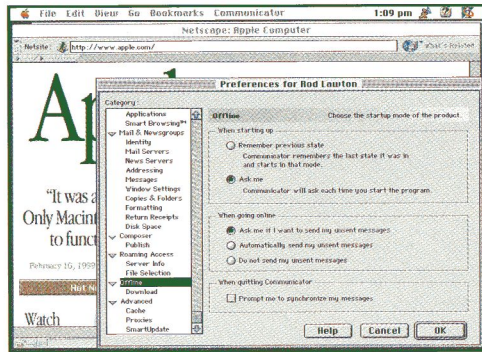
One solution is to limit your browsing to off-peak times. This won't always be feasible, though, especially if you use the Internet at work. Instead, then, you need to browse the Web intelligently.

Here's how. As soon as you visit a page, your browser copies it to your hard disk in an area called its cache. (That's why it's faster to revisit the page during the same session – your browser doesn't have to download it all over again.)

You can increase the size of your browser's cache so that it stores not just the last few Web pages you visited, but the last few dozen. Instead of spending costly on-line time reading through everything, you can then study these pages in "off-line" mode without even being connected to the Internet (that is, without a live phone connection) unless you follow a link to a new page.

Tips on searching

If you don't know the address of the Web page you want, or you simply want to take a look around, try one of the many directory sites or search engines (see page 27). Yahoo, for example, organises Web sites into categories and by subject matter. Internet search engines work like the **Find** function in your word processor, but they search the whole Internet for matches. This can produce rather too many results, but most search engines offer advanced options where you can specify whole phrases or sentences to search for, or combinations of words occurring separately in a Web page. Many also offer "intelligent" search functions that provide a long list of matching Web sites in order of potential relevance. Some enable you to



Your browser will temporarily download any Web page you visit to a cache on your hard disk. If you increase the cache size, you can read pages "off-line" and save on phone bills.

type in questions in plain English, too, including Mac OS 8.5's built-in Sherlock, which also offers many other time-saving features (check your Mac OS 8.5 documentation for the details).

The bigger the better?

The Internet is such a vast place, and the range of content so diverse, that even the best search engine can be a bit too hit-and-miss. Search engines may also not be the best solution for those who need accurate, verifiable information – journalists, for example – since for every useful Web site yielded by a search engine, there will be a dozen run by ill-informed amateurs or cranks.

As a rule of thumb, the quality of information on the Internet is roughly proportional to the size of the organisation providing it. This doesn't mean small Web sites are always wrong, but large organisations can't afford inaccuracies, either about their own products or those of their rivals. The same applies to news and other information.

When you need accurate information, then, by all means use a search engine, but get as close to the source of the information as you can – if you want to find out about *Adobe Illustrator*, for example, go straight to the Adobe Web site. That said, of course, magazine Web sites and specialist news or reference sites can provide lots of impartial information, and it's their job to be accurate!

Savvy Net users have a range of strategies for finding what they want. Search engines play a part, but so do favourite Web sites, which contain not just useful information but links to other sites too – sites with good information generally have good links too. Although the creators of a Web site can't usually vouch for the quality of the sites they offer links to, they're likely to have at least visited the site and judged it worth including.

Bookmarking favourite sites

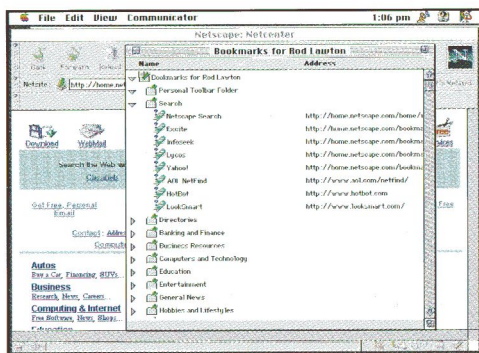
You can use your browser's "bookmarks" to store your favourite Web addresses in an organised, structured list...

All browsers enable you to store a Web site's address for easy access later via a book-marks menu or Favourites folder. But don't bookmark every page you visit! The whole idea of bookmarks is that they help you find a favourite page quickly, but they won't if it's buried five layers deep in a bookmarking system that includes half the Web sites in the world.

Different people will have different ideas about bookmarking, but if you find yourself visiting the same Web pages half a dozen times, then maybe they're worth marking.

Don't simply record bookmarks in one long list. You can set up any number of sub-folders for organising your bookmarks according to subject-matter, for example, and this will make it much easier to find sites when you want them.

And don't forget to clear out your bookmarks periodically – junk quickly accumulates!



Netscape Navigator uses a structured folder system, much like the Mac's own Finder, to store bookmarks. It takes slightly longer to set up, but saves much more time later.

MacFormat's favourite bookmarks

Apple Computer

<http://www.apple.com/>

One of the most popular of all sites on the Web, Apple's stylish home page is the gateway to a wealth of Macintosh-related information, including the latest Apple news, technical support and essential software updates.

The Apple Store UK

<http://www.apple.com/ukstore/>

Now you can use the Web to buy a Mac direct from Apple; or just play with the delightful customisation options to create your fantasy Mac set-up.

Yahoo UK & Ireland

<http://www.yahoo.co.uk/>

Thousands of Web site addresses divided into clearly-labelled categories – an essential directory. Search the whole Web or just UK sites.

Excite UK

<http://www.excite.co.uk/>

One of the Web's most popular search engines, helping you locate the exact site you're looking for out of millions.

Download.com

<http://www.download.com/>

These days, more and more publishers are offering try-before-you-buy demos. Visit Download.com for a huge array of demos, previews and giveaways.

BBC News

<http://www.bbc.co.uk/news/>

Just as authoritative on the Web as it is on the box, the BBC brings you up-to-the-minute news and current affairs 24 hours a day.

MacCentral

<http://www.maccentral.com/>

Our favourite Mac news site includes daily, even hourly updates, plus entertaining opinion columns and a games spin-off site. A great Mac read.

MacFormat

<http://www.macformat.com/>

MacFormat's official Web site includes a comprehensive buyer's guide to Mac products, plus all the latest news and gossip about Britain's best-selling Macintosh magazine.

Efficient e-mail

It's true of Web browsers, and true here: which e-mail program you choose isn't as important as what you do with it when you've got it...

Many people find that their e-mail program is as indispensable as their Web browser. While the Web is all about information, e-mail is all about communication. Just as the phone has almost completely supplanted the letter as a means of staying in touch with friends and family, so e-mail is threatening to do the same to business correspondence – or even to the phone.

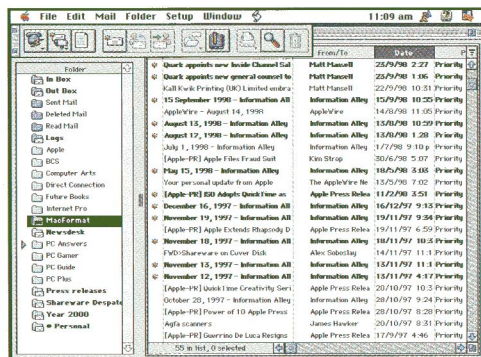
The biggest revolution is in international communications. Most people struggling with a second language find it much easier to decipher a written e-mail than speech, with all its imperfections, inflections and regional accents. Even when you're both talking the same language, it can be much easier to express a complex idea – or a contentious point! – in carefully-composed words rather than in a live conversation, when you are put on the spot in more senses than one. Most of all, you can send an e-mail at any time of day, without having to allow for different global time zones.

What's more, telephone conversations are transitory. Unless you take notes (or record them), there's no permanent record of what was said, by whom and when. But you can keep, archive, and even search your e-mail correspondence.

You can forward it to others, too, either singly or as a group. No matter how many people you send an e-mail to, you only have to send it once – the Internet looks after the rest.

How it works

When you send an e-mail message, it travels from your Mac to your ISP's mail server. From here, it's routed around the Internet according to the e-mail address of the recipient(s). It ends up on their ISP's mail server, waiting for them to log on to download their e-mails. Similarly, your ISP will be storing e-mails addressed to you, ready for when



When Claris products were split up between FileMaker Inc and Apple, *Claris Mailer 2* disappeared. A shame, since many reckon it's the nicest, neatest e-mail program ever.

you log on to download them.

Your e-mail program will make this an almost transparent process. You'll often send and receive at the same time, by clicking a single button, when the software will send any messages in your Outbox and download any waiting messages into your Inbox. Good e-mail software will also give you the option of composing and reading your messages off-line, so you pay phone call charges only for the time it takes to actually transfer messages between your Mac and the ISP server.

E-mail addresses and address books

E-mail addresses may look like gibberish, but they're actually quite straightforward. Somewhere in the middle there will be an @ symbol. To the left of this is the recipient's name (or nickname, or company name); to the right is the computer that stores their e-mail messages (or strictly, their ISP's domain location). That's all there is to it.

This makes e-mail addresses a little easier to remember, but much of the time you might not have to because your e-mail program will store these details in its address book. Typically, you might only have to start typing out the recipient's name when you compose a message and the software will look it up and complete it automatically.

Address books are very easy to compile, too, because every time someone sends you a message their e-mail address will be included. Most e-mail programs can automatically create a new address book entry from any message you receive.

Links on and to Web sites

Web sites can have special e-mail links so that you can contact a company's sales department directly, say, or send a query to a company's technical support department. If you develop your own Web

No junk please

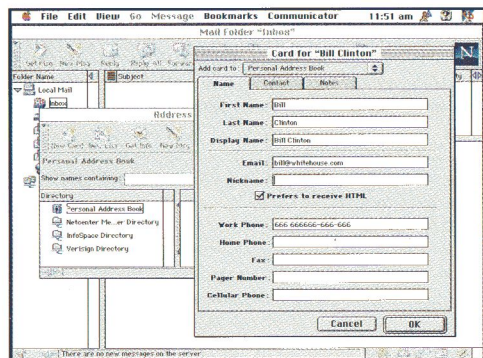
"Junk e-mails" are every bit as tiresome as the paper circulars that drop through your letterbox – particularly as you have to wait while they download. When you send an e-mail, visit a newsgroup or (sometimes) even browse a Web page, companies can extract your e-mail address, and many make a living out of selling on tens of thousands of "random" addresses.

The answer? Choose an ISP account with multiple e-mail addresses, then choose a "junk" one as the address you insert in your browser and e-mail preferences, and distribute your real address only to bona fide friends and colleagues. This won't stop your account receiving unsolicited e-mails, but if you don't want to deal with them don't bother checking any mail sent to your "junk" address at all. Or open a separate account you can ignore completely...

site, it's a feature you might like to build in. Similarly, you can promote your company's Web site by including a link to it in your e-mail messages. If your e-mail program (and your recipient's) is "HTML-enabled", this will be a "hot" link – that is, one that will open the recipient's browser at your Web page when they click on it.

All this and formatting too

Most e-mail programs now support HTML formatting. This means you can use different font sizes and colours, insert graphics and add rules and bulleted lists to your messages, as well as links to Web sites. If the recipient's program is not HTML-enabled, though (or if they've got this feature switched off), the message will arrive as plain text but with a Web page "attached".



All e-mail programs have address books. These can contain not just an e-mail address, but other contact information too – in the case of *Netscape Messenger* – a page of notes, which could be useful in business.

Kids and newsgroups

Don't let your kids visit newsgroups unattended, any more than you'd let them talk to strangers on the telephone. In one case recently, a child in America was abducted by someone she had "met" on the Internet, who posed as another child and tricked her into meeting her at a secret location.

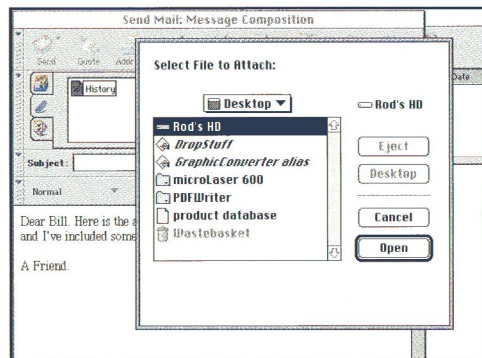
Newsgroups can be useful forums for discussion for adults, but dangerous places for children. You've got no way of knowing the age, sex or purpose of the people you're dealing with, especially in groups that deal with popular culture, like music or films, rather than specific technical subjects. Any postings you make to newsgroups are public and include your e-mail address – and (if you've set these up in the "signature" automatically added to messages you send) even your telephone number and address.

E-mail attachments

Attachments (sometimes called "enclosures") are one of the most useful things about e-mail, especially in business. By attaching a file to an e-mail, you can send a copy of your company accounts to a colleague in San Diego, or a picture of you and your family to your Aunt Maude in Cleethorpes. Attaching a file to an e-mail is far, far quicker than copying it to a floppy disk and posting it.

Mailing lists

Finally, e-mail-based mailing lists are much more useful than the junk mail you get through your letterbox. Many organisations run mailing lists to keep people up to date with news, developments or leisure interests. They're cheap to set up and run, so they're ideal for small clubs and societies.



E-mail messages can have attachments. It's the easiest way to send files to colleagues or friends, and it's one of the reasons why iMac doesn't need a floppy disk drive – with an Internet connection, you can transfer files instantly.

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FIVE THINGS THE NET CAN DO

- 1** Does your daily paper offer searchable, instantly accessible archived news stories?
- 2** Does your local computer shop offer free demos of 1,001 leading applications?
- 3** Could you post your company's annual sales spreadsheets to your accountant for 2.5p, to arrive 30 seconds later?
- 4** Do you know any shops you can browse through without pushy sales assistants, without even having to leave home to visit?
- 5** This book was assembled by four people in three separate locations, and no-one had to leave their office once! (Except to eat, obviously. And sleep. And visit the loo. But you get the idea...)

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How the Internet works
What you need to get connected
Why do you need an Internet service provider?
All you need to know about modems
Do you need a new phone line?
What System Extensions does your Mac need?
Ten things you may never need to know
(but you should ask your ISP anyway)

HOW TO GET ON-LINE

Getting connected the easy way - automatically
Connecting to the ISP of your choice
What the Internet Setup Assistant does for you
Should you use your ISP's setup software?
Configuring your setup yourself
Connecting with older Macs and System versions

TIPS, TECHNIQUES AND OPTIONS

Choosing an Internet service provider
Browsing the Web
Which browser software should you choose?
Bookmarking your favourite Web pages
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